\*)

## SECTION 203 - EXCAVATION AND EMBANKMENT

- 203.01 Description. This work includes excavation, disposal or compaction \*| of material not removed under other sections that is met within the limits of \*| the work or from acceptable sources necessary for the construction of the \*| roadway and other area or structure designated in the plans according to the \*| contract. The Contractor shall classify excavation work under this section \*| as "roadway excavation" or "borrow".
  - (A) Roadway Excavation. Roadway excavation includes excavation and | disposal or compaction of materials of whatever character encountered in \*| the work.
  - (B) Borrow. Borrow includes acceptable material required for the \*| construction of embankments or for other portions of the work. The \*| Contractor shall get borrow from acceptable sources. The Contractor \*| shall arrange the request for getting borrow and pay the costs involved. \*|

The Contractor shall notify the Engineer twenty (20) working days \*| before opening borrow areas. The Contractor shall allow sufficient time \*| for testing the borrow.

The Contractor is directed to see Section 106-Control of Materials. \*I

203.02 Materials. None specified.

203.03 Construction Requirements. The Contractor shall finish the excavation \*| and embankments for roadways, intersections and entrances to smooth and \*| uniform surfaces. The Contractor shall conduct excavation operations so that \*| the Contractor does not disturb the material outside the limits of slopes. \*| The Contractor shall grade, embank and clear and grub before beginning \*| excavating according to Section 201 - Clearing and Grubbing. \*|

## --(A) Excavation.

(1) General. Obliteration of old roadways includes grading \*| operations necessary to incorporate the old roadway into the new | roadway and surroundings. The Engineer will pay roadway \*| obliteration as roadway excavation.

If its excavating operations encounter remains of prehistoric \*| people's dwelling sites or artifacts of historical or \*| archaeological significance, the Contractor is directed to see \*| Subsection 107.17(D) - Archaeological, Historic, and Burial Site \*| Findings.

The Engineer will not permit excessive blasting. The \*| Contractor shall remove material outside the authorized cross \*| section that the Contractor may shatter or loosen due to the \*| blasting at no cost to the State. If its blasting leads to \*| overshooting, is dangerous to the public, or is destructive to \*| property or natural features, the Engineer will have authority to \*| stop the Contractor from continuing their blasting.

When acceptable by the Engineer, the Contractor shall haul and \*| compact in place the selected material directly from excavation to \*| its final position in the roadway prism. The Engineer will pay \*| such work at the contract price for roadway excavation.

Until the Contractor can place the selected material in final \*| position, the selected material described above shall remain in \*| place. The Engineer will not allow additional compensation for \*| delay or inconvenience in excavation operations. If ordered in \*| writing by the Engineer, the Contractor shall excavate and stockpile \*| the selected material at locations acceptable to the Engineer. The \*| shall later place the selected material in final position in the \*| roadway prism.

The Engineer will pay for excavating selected material for \*| stockpiling, if required, at the contract price for roadway \*| excavation. The Engineer will pay for removing the selected \*| material from stockpiles and placing the selected material in final \*| position in the roadway prism at the contract price for roadway \*| excavation again. The Engineer will determine the quantities that \*| the Engineer will pay for from measurements of the material in the \*| stockpiles before removal.

The Engineer will not pay for stockpiling selected material \*| unless the Engineer orders such stockpiling. The Contractor shall \*| not consider topsoil placed along the tops of slopes for erosion \*| control work as stockpiled material when determining quantities of \*| earthwork that the Engineer will pay for.

- (2) Widening Slopes. The Contractor shall widen the planned cut or \*| flatten the planned slopes to obtain material required: \*|
  - (a) for embankment construction or \*1
  - (b) to preclude the opening of unsightly borrow pits or \*|
  - (c) to increase the stability of cut slopes or \*|
  - (d) when so ordered. \*1

The Contractor may submit for acceptance the necessary data to \*| steepen the excavation slopes, if:

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\*|

\*|

- (a) the material can stand at a slope steeper than shown in \*| the contract and \*|
- (b) the Contractor does not need the planned material for \*| roadway construction.
- (3) Selected Materials. Selected material is defined as excavated \*/
  material from areas within the highway right-of-way. The Engineer \*/
  will determine the source and use of the material. \*/

When ordered by the Engineer, the Contractor shall use the \*| selected material for: \*|

- (a) finishing the top portion of the roadbed,
- (b) constructing roadbed shoulders.
- (c) structure backfill, or \*
- (d) according to the plans or as ordered.

When the Contractor excavates and uses the existing topsoil \*| within the roadway with erosion control work or landscaping, the \*| Contractor shall consider such material as selected material. \*|

The Contractor shall place selected material on the roadbed \*| according to the requirements for placing embankment material and \*| structure backfill except: \*|

- (a) as specified in the following paragraph for placing a \*|
  layer of selected material and \*|
- (b) selected topsoil to be placed with erosion control work. \*

If the Contractor chooses to remove the rocks and lumps or \*| break up hardened material and the contract specifies the source of \*| the selected material, such work shall be at no cost to the State. \*| If the contract does not specify the source of the selected \*| material, the Engineer will pay this work as extra work as \*| specified in Subsection 104.03 - Extra Work.

When practicable, the Contractor shall haul and compact in \*| place the selected material directly from excavation to its final \*| position on the roadbed. The Engineer will pay such work at the \*| contract unit price for roadway excavation. The Engineer will \*| not allow additional compensation.

If handling selected material directly from excavation to its \*| final position on the roadbed is practicable, the material shall \*| remain in place until the Contractor can place the material in its \*| final position unless the Engineers orders the Contractor to do \*| otherwise.

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The Engineer will not consider selected topsoil placed in \*| windrows along the tops of roadway slopes with erosion control work \*| as stockpiled material. The Contractor shall consider selected \*| topsoil placed in stockpiles as ordered by the Engineer and at \*| locations other than in windrows along the tops of roadway slopes as \*| stockpiled materials. The Engineer will pay the Contractor as \*| provided.

(4) Borrow. The Contractor shall not place borrow material until \*1 after the Contractor places the roadway excavation in the fill. If \*| the Contractor places more than the required borrow and causes a \*| waste of excavation, the Engineer will deduct the quantity of that \*! waste from the borrow volume as measured in the borrow area. The \*| Contractor shall blade and leave borrow areas in shape as to permit \*| accurate measurements after completing the excavation. The \*1 Contractor shall give the Engineer sufficient time before beginning \*1 excavation so that the Engineer may take necessary cross sections. \*| The Contractor shall not excavate beyond the dimensions and \*| elevations established. The Contractor shall not remove the material st |before the staking out and cross sectioning of the site. The \*| Contractor shall establish and specify the finished borrow areas \*! approximately true to line and grade. Also, the Contractor shall \*| finish the finished borrow areas where practicable so that no water \*| may collect or stand therein. The Contractor shall replace the \*| fencing in as good condition as the existing fence was originally \*| when necessary to remove fencing. The Contractor shall be \*! responsible for the confinement of livestock when removing a portion \*| of the fence. The Contractor shall provide and maintain the \*| temporary fencing until the Contractor can install permanent fencing \*| at no cost to the State when the Contractor requests for temporary \*| fencing for security purpose.

Borrow material shall conform to the size and quality \*| requirements specified in the contract. If the contract does not \*| specify size or quality, the material shall be of a quality suitable \*| for the purpose intended. The sand equivalent (SE) value as \*| determined by AASHTO T 176 for the top three (3) feet of the \*| embankment, excluding the pavement structure, shall not be less than \*| the filled area and less than two (2).

Materials shall be according to the contract.

If the Contractor encounters material of satisfactory quality \*| for use as imported borrow in roadway, ditch and channel, or \*| structural excavation operations and if ordered by the Engineer, the \*| Contractor shall excavate and place such material instead of borrow \*| according to Subsection 203.02(A)(3) - Selected Materials.

\*|

The Engineer will not allow compensation other than payment \*| as roadway, ditch and channel, or structure excavation for the \*| quantities involved because of the use of material from such \*| excavation instead of borrow. The Engineer will not allow \*| compensation because of the elimination of the estimated furnishing \*| and placing of contract quantity of borrow.

(5) Slopes. The Contractor shall round the tops and ends of \*| excavation slopes according to the contract or as ordered. The \*| Engineer will pay for rounding of slopes and disposal of the \*| resulting material roadway excavation for the quantities involved. \*| The Engineer will not allow additional compensation for such work. \*|

The Contractor shall finish excavation slopes according to \*| Class A Excavation. The Contractor shall finish excavation slopes \*| that are half (1/2) horizontal to one (1) vertical or steeper and \*| slopes in rock excavation according to Class B Excavation. \*|

The Contractor shall finish Class A Excavation with slopes cut \*| true and straight in conformity with the lines and grades of slope \*| required. The Contractor shall maintain slopes, whether old or new, \*| with true and smooth surfaces.

The Contractor shall leave Class B Excavation in a rough \*| condition with debris and loose material removed. When completed, \*| the average plane of excavation slopes shall conform to the slopes shown on the plans. No points shall vary from the planned slopes \*| by more than six (6) inches measured at right angle to the slope. \*|

(6) Surplus Excavation. The Contractor shall use surplus excavated \*| material to uniformly widened embankments, flatten slopes, or to \*| disposed of along the roadway or in other locations as ordered by \*| the Engineer. The Contractor shall not dispose surplus material \*| above the grade of the adjacent roadbed. The Contractor shall not \*| borrow or waste material. The Contractor shall complete embankments \*| before arranging the disposal of surplus excavation. The Contractor \*| shall not dispose material unless authorized.

If the contract shows the quantity of surplus material, the \*| quantity shown is only approximate. The Contractor shall replace \*| shortage of material, caused by premature disposal of material by \*| the Contractor, at no cost to the State.

Disposal surplus material from roadway excavation except as | designated as selected material and to be used as such shall become | the Contractor's property. The Engineer will consider disposal \*| surplus material incidental to the respective excavation pay items. \*|

The Contractor shall level or free the disposal area from \*| depressions and humps upon completion of disposal operations.

- (7) Slides. In natural position outside the planned roadway slopes, \*| the Contractor shall excavate and remove the unstable material that \*| constitutes potential slides according to the contract and comes \*| into the roadway by:
  - (a) benching to the lines designated, or
  - (b) excavating the material to a designated slope from an \*| elevation at or near the roadway grade, or \*|
  - (c) in such other manner as may be ordered.

The Contractor shall use the above material in the construction \*| of the roadway as specified or dispose such material along the \*| roadway as ordered.

The Engineer shall pay for removing and disposing of slide \*| material as roadway excavation:

- (a) that slides from outside the planned roadway slopes and \*| into the planned roadway prism, and \*|
- (b) the removal and disposal of unstable material in natural \*| position outside the planned roadway slopes, not resulting from \*| overshooting.

The Engineer will consider full compensation to be included \*|
in the contract price for structure excavation or roadway excavation \*|
within the authorized lines and elevations for removing and \*|
disposing of:

\*|

- (a) material that may come into excavations for structures and \*)
  drainage facilities and \*)
- (b) slide material and unstable material resulting for \*)
  overshooting.

The Engineer will not allow additional compensation for the \*| above work.

The Engineer will not include slide material quantities that \*| slide across the roadway prism in the roadway excavation quantities \*| unless the Contractor rehandles and reuses the material. The \*| Engineer will pay only the quantities rehandled.

The Contractor shall not construe the above provisions as to \*| relieve the Contractor of maintaining slopes true and smooth or to \*| require the redesign of a sound slope.

\*|

\*|

\*|

- (8) Unsuitable Material. Where excavation to the finished grade \*| results in a subgrade or slopes of unsuitable soil, the Engineer \*| may require:
  - (a) removing of the unsuitable material and
  - (b) backfilling to the finished grade with specified material. \*|

The Contractor shall backfill according to embankment \* | construction.

The Engineer may designate as unsuitable those soils that \*| cannot be properly compacted in embankment. Unsuitable material \*| may include vegetable matter, garbage and junk piles, on the \*| surface or buried.

Unsuitable material shall become the property of the \*| Contractor. The Contractor shall conduct the operations so that \*| the Engineer can take the necessary cross-sectional measurement \*| before placing the backfill.

If the relative compaction of the original ground is less than \*| Subsection 203.03(B) -Embankment Construction where the Contractor \*| removed the unsuitable material, the Contractor shall compact the \*| upper six (6) inches of the exposed original ground according to \*| the contract. The Engineer will consider such work incidental to \*| the removal of unsuitable material. The Engineer will not pay \*| for such work.

- (9) Highly Sensitive Soil. When soil, having a high moisture \*| content, loses its stability and becomes plastic or muddy, the \*| Engineer will allow such equipment and methods in excavating the \*| material that will result in the least possible manipulation or \*| churning of this material. The Engineer will not permit cable \*| operated scrapers of the Sauerman type.
- (B) Embankment Construction. Embankment construction includes:
  - (1) constructing embankments within the project limits including \*| preparation of the area that the Contractor places the material; \*|
  - (2) the construction of dikes within or outside the right-of-way; \*1
  - (3) the placing and compacting of acceptable material within the \*| project area where the Contractor removed unsuitable material; and \*|
  - (4) the placing and compacting of embankment material in holes, \*| pits and other depressions within the project area. \*|

The Contractor shall use only acceptable materials in the \*; construction of embankments and backfills.

(1) General. The Contractor shall not place rocks, broken concrete, \*| or other solid materials in embankment areas where the Contractor \*| shall place or drive piles.

When the Contractor:

(a) places and compacts embankment on hillsides, \*|

\*|

- (b) compacts new embankment on existing embankments, or \*|
- (c) builds embankment half (1/2) width at a time, \*

the Contractor shall continuously bench the slopes that are steeper \*| than four (4) horizontal to one (1) vertical when measured at right \*| angle to the roadway as the Contractor brings up the work in layers. \*!

Benching shall be of sufficient width to permit operations of placing and compacting equipment. The Contractor shall begin each \*| horizontal cut at the intersection of the original ground and the \*| vertical sides of the previous cuts. The Contractor shall recompact \*| the material thus cut along the new embankment material at no cost \*| to the State unless the width of excavation required exceeds six (6) \*| feet. The Engineer will measure and pay the excavated material over \*| six (6) feet as roadway excavation.

If the Contractor places and compacts the embankment and the \*| Engineer permits end dumping, the Contractor shall plow or cut into \*| the slope of the original ground or embankment before the Contractor \*| starts the end dumping. The Engineer will permit end dumping until \*| the width of the embankment, including benching, becomes great \*| enough to permit the use of compacting equipment. The Contractor \*| shall place the remainder of the embankment in layers and compact as \*| specified.

If embankments across low swampy ground cannot support the \*|
weight of trucks or other hauling equipment, the Contractor may \*|
construct the lower part of the fill by dumping successive loads in \*|
a uniformly distributed layer of a thickness not greater than \*|
necessary to support the vehicle placing the layers. The Contractor \*|
shall construct the remainder of the embankment as specified. \*|

If the Contractor can deposit the embankment on only one side \*| of abutments, wingwalls, piers, or culvert headwalls, the Contractor \*| shall not overcompact the area next to the structure. The Contractor \*| shall not place the fill next to the end bent of a bridge higher \*| than the bottom of the backwall of the bent until the superstructure \*| is in place. The Contractor shall conduct operations so that the \*| embankment is at approximately the same elevation on both sides of \*| the structure when placing embankment on both sides of a structure. \*|

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The Contractor shall finish slope embankment true and straight \*| from the shoulder line in conformity with the lines and grades \*| established. The Contractor shall finish slopes below an elevation \*| four (4) feet below the shoulder line to the approximate lines and \*| grades established so that the slopes contain no unsightly or undue \*| irregularities.

The Contractor may place excess material outside the \*| embankment slopes and within the right-of-way provided the Engineer | accepts such material and its location. The Contractor shall place \*| the material to maintain a distance below the finished shoulder \*| elevation. The Engineer will consider not placing excess material \*| as specified above as surplus material. Refer to Subsection \*| 203.02(A)(6) - Surplus Excavation.

The Engineer will consider disposal of unsuitable material \*| incidental to Roadway Excavation.

The Engineer will pay under Roadway Excavation for the \*| removal of unsuitable material under the roadway. The Engineer \*| will pay under Structure Excavation for the removal of unsuitable \*| material under structures. The Contractor shall place as prescribed \*| by Subsection 203.02(B) - Embankment Construction. \*|

The Contractor shall place roadway embankment of earth \*|
material in horizontal layers not exceeding eight (8) inches in \*|
loose thickness. The Contractor shall compact as specified before \*|
placing the next layer. The Contractor shall use an effective \*|
spreading equipment on each lift to get uniform thickness before \*|
compacting. The Contractor shall level and manipulate continuously \*|
to assure uniform density as the compaction of each layer \*|
progresses. The Contractor shall add or remove water to get the \*|
required density. The Contractor shall route construction equipment \*|
uniformly over the entire surface of each layer. \*|

## When embankment material:

- (a) consists predominantly of rock fragments, hardpan or \*)
  cemented gravel that cannot be broken readily and \*)
- (b) includes twenty-five (25) percent or more of materials \*|
  larger than six (6) inches in greatest dimension, \*|

the Contractor may place such material in the embankment in layers \*1 not exceeding in thickness the approximate average size of the \*1 larger rocks. The Contractor shall not exceed three (3) feet. The \*1 Contractor shall not construct the lifts above an elevation two and \*1 one-half (2-1/2) feet below the finished grade. The Contractor \*1

\* ]

shall compose the balance of the embankment of suitable material \*| smoothed and placed in layers not exceeding eight (8) inches in \*| loose thickness. The Contractor shall compact as specified for \*| embankments.

When the embankment material includes large rocky material or \*| hard lumps such as hardpan or cemented gravel that cannot be broken \*| readily, the Contractor shall uniformly distribute such material \*| throughout the embankment. While depositing the embankment material \*| to fill the interstices, the Contractor shall place sufficient earth \*| or other fine material around the large material. The Contractor \*| shall produce a dense compact embankment. If earth or other fine \*| material to fill the interstices is not available in excavation, the \*| furnishing of such material shall be at no cost to the State.

Processing of embankment material to reduce maximum size of \*| particles so that the Contractor can place the material in the \*| specified lifts shall be at no cost to the State. The Engineer \*| will not make compensation.

Whenever selection is possible, the Contractor shall deposit \*|
embankment material having a SE value of less than ten (10) in the \*|
lower portions of embankments. The Contractor shall not place such \*|
material within three (3) feet of planned finished grade. The \*|
Contractor shall broke up clods or hard lumps of earth over six (6) \*|
inches in greatest dimension before compacting material in \*|
embankment except as provided in the above paragraph. \*|

The Contractor shall construct the center of embankment layers \*| higher than the sides. The Contractor shall construct sidehill \*| embankments with the intersection with original ground as the high \*| point of the layer. The Contractor shall uniformly slope to the \*| outer side. The Contractor shall not exceed the cross fall of \*| layers one (1) foot in twenty (20) feet.

Caves are often present in lava formations. The Engineer will \*| decide if the caves are too close to the road surface. If too \*| close, the Contractor shall open their tops. The Contractor shall \*| fill and compact the cave and the hole formed in the top as \*| required for other embankments.

Until the acceptance of the contract, the Contractor shall \*| maintain embankments to the grade and cross section shown in the \*| contract. The Contractor shall be responsible for the stability of \*| constructed embankments. The Contractor shall replace portions \*| that becomes displaced or damaged at no cost to the State. \*|

The Engineer will consider heavy rain for shutting down grading \*} operations.

(2) Construction of Embankments and Treatment of Cut Areas with Moisture and Density Control. When the original ground surface in embankment sections is within three (3) feet of the finished profile grade, the original ground contained in the prism within three (3) feet of the finished grade and within the width of the traveled way plus three (3) feet on each side, shall have a relative compaction of not less than ninety-five (95) percent.

When the original ground within the three (3) feet depth does \*| not conform to the compaction requirements specified, the \*| Contractor shall excavate the material. \*|

If the next six (6) inches of material below this excavation \*| does not have a relative compaction of at least ninety (90) percent \*| the Contractor shall compact the material until the Contractor gets \*| not less than ninety (90) percent relative compaction. After \*| compacting the lower six (6) inches to a relative compaction of \*| ninety (90) percent, the Contractor shall backfill the excavated \*| material or other material designated in the excavated area. The \*| Contractor shall place the backfill material in layers not \*| exceeding eight (8) inches in loose thickness before compaction. \*| The Contractor shall compact each layer to a relative compaction \*| of not less than ninety-five (95) percent.

The Contractor shall construct embankments in layers not to \*|
exceed eight (8) inches in loose thickness except as specified in \*|
Subsection 203.02(B)(3) - Compaction of Embankments Not Constructed \*|
With Moisture and Density Control. The Contractor shall compact \*|
each layer within three (3) feet of finished grade to not less than \*|
ninety-five (95) percent relative compaction. The Contractor shall \*|
compact material below a plane three (3) feet below the finished \*|
grade to not less than ninety (90) percent relative compaction. \*|

If the above conflicts with Subsection 203.02(C) - Subgrade \*| Preparation, the requirements of said subsection shall apply. \*|

Test methods to determine maximum densities and relative \*| compaction shall be according to Subsection 106.03 - Samples, \*| Tests, Cited Specifications.

If the Contractor cannot reduce the natural moisture content \*| of the excavated material from the roadway sufficiently to obtain a \*| relative compaction of ninety (90) percent, the Contractor shall \*| obtain a compaction equivalent to one hundred (100) percent of the \*| dry density of that material at the equivalent moisture content \*| Moisture increase due to rain and other external conditions or \*| causes are not acceptable reasons for using this method in determining relative compaction.

The Contractor shall not apply density requirements to the \*| portions of embankments constructed which the Engineer cannot test \*| according to the methods specified.

(3) Compaction of Embankments Not Constructed With Moisture and Density Control. The Contractor shall deposit embankment materials \*| in layers not exceeding eight (8) inches in loose thickness before \*| compaction except rock fills and the first layer of fills over \*| swampy ground.

The Contractor shall submit the types and application of \*| compaction equipment for acceptance. The Contractor shall compact \*| rock embankments to the maximum compaction obtainable by routing the \*| loaded hauling equipment over the entire width of the layer, \*| supplemented by using acceptable rollers. The Contractor shall not \*| use rollers equipped with tamping studs or tamping rollers to \*| compact rock fills.

The Contractor shall keep dumping and rolling areas separately. \*|
The Contractor shall not cover the lift by another until the \*|
Contractor secures compaction according to this subsection. \*|

- (4) Proof Rolling. When specified, the Contractor shall proof roll. \*|
  The Engineer will pay according to the methods and equipment set \*|
  forth.
- (C) Subgrade Preparation. Subgrade preparation includes preparing the \*| subgrade to the required density, cross section and grade. \*|
  - (1) General. The Contractor shall do subgrade work after the \*| Contractor compacts the earthwork and completes and backfills \*| drainage facilities and structures. The Contractor shall compact \*| the subgrade by power rollers equipped with smooth steel-tired \*| wheels.

If the Contractor chooses to remove rocks or lumps including \*| filling of voids with acceptable materials, the Contractor shall do \*| such work at no cost to the State. The Engineer will not make \*| compensation. The Contractor shall conform to the requirements of \*| specified material that the Contractor places on the subgrade. \*|

- (2) Density Requirement. The finished subgrade immediately before \*| placing of subsequent material thereon shall have a relative \*| compaction of not less than ninety-five (95) percent for a depth of \*| six (6) inches.
- (3) Surface Tolerances. The finished subgrade upon which the \*| Contractor places subbase course shall not vary more than 0.10 foot \*| above or below the theoretical grade.

The finished subgrade upon which the Contractor places base \*| course shall not vary more than 0.05 foot above or below the \*| theoretical grade.

The finished subgrade upon which the Contractor places the \*| final wearing surface shall not vary more than 0.04 foot above or \*| below the theoretical grade. The Contractor shall reshape subgrade \*| that does not conform to the above requirements to conform to the \*| specified tolerances, watered and recompacted, at no cost to the \*| State.

If the Engineer pays the subbase or base course placed on \*| the finished subgrade on a theoretical cubic yard basis, the \*| Contractor may waive the lower finish surface tolerance with the \*| acceptance of the Engineer.

## 203.04 Method of Measurement.

(A) Roadway Excavation. The Engineer will measure roadway excavation \*| by the cubic yard according to the following provisions:

The Engineer will compute the quantities of roadway excavation by \*| the average end area method and centerline distances. The Engineer will \*| not apply correction for curvature to the quantities within the roadway \*| prism shown on the cross sections. The Engineer will make correction \*| for curvature having a centerline radius of one thousand (1,000) feet or \*| less in computing excavation quantities from outside the roadway prism \*| where using the roadway centerline as a base.

If the Engineer cannot measure the roadway excavation quantities by \*| the average end area method due to the nature of a particular operation \*| or changed conditions, the Engineer will decide the method to get an \*| accurate quantity estimate.

The Engineer will not measure for payment excavation over the \*| planned or authorized cross section except as provided in Subsections \*| 203.02(A)(7) - Slides, 203.02(A)(2) - Widening Slopes, and 203.02(A)(6)- \*| Surplus Excavation. The Contractor shall backfill and compact \*| unauthorized excavated areas to the original ground elevation at no cost \*| to the State if ordered.

(B) Borrow. The Engineer will measure the quantity of imported borrow \*! material by the ton or cubic yard.

The Engineer will measure borrow material on a volume basis in \*| excavation. The Engineer will compute by the average end area method \*| from measurement taken before and after and after removal of the \*| material at the borrow site. The Engineer will deduct material excavated \*| at the borrow site and not incorporated into the work from the computed \*| volume of excavation. The Engineer will not pay the deducted material. \*|

The Engineer will include binder material entering and becoming a part \*| of the imported borrow material placed on the roadbed in the pay \*| quantities of borrow material.

The Engineer will decide the quantities of materials to be paid for \*} by the cubic yard by converting the weight measurement to volume as \*} provided in Subsection 109.01 - Measurement of Quantities. When the \*} Engineer cannot exercise the control of measurements of pits as \*} supplying the materials, the Engineer will decide the weight-volume \*} ratio from the material in its natural state. The Engineer will use the \*} maximum dry density of the material obtained by the method specified in \*} Subsection 106.09(A)(1) - Maximum Dry Unit Weight if the Engineer cannot \*} decide the weight-volume ratio of the material in its natural state. \*}

If the Contractor selects the borrow pit, the Contractor shall be \*| responsible for the weighing of the material loads.

If the Contractor chooses to use pits other than those designated, \*| the Engineer will estimate the difference in the swell and shrinkage \*| factors involved. If these factors increase or decrease by more than two \*| (2) percentage points, the Engineer will apply a suitable correction to \*| the measured quantities taken from the pit when calculating pay \*| quantities.

The Engineer will compute the imported borrow material by the ton \*| based on bulk (dry) specific gravity according to Subsection 109.01 - \*| Measurement of Quantities.

(C) Overhaul. If specified in the proposal, the Engineer will measure \*| the work according to Section 205 - Overhaul. \*|

203.05 Basis of Payment. The Engineer will pay for the accepted quantities \*| of roadway excavation at the contract unit price per cubic yard.

The Engineer will pay for the accepted quantities of imported borrow \*| at the contract unit price per cubic yard or ton as shown in the proposal \*| complete in place.

If specified in the proposal, the Engineer will pay for the overhaul \*| according to Section 205 - Overhaul.

The Engineer will make payment under:

Pay Item Pay Unit

Roadway Excavation Cubic Yard \*|

Imported Borrow Cubic Yard \*|

Imported Borrow Ton \*|

\* |

\* ]

The Engineer will not pay for embankments. The Engineer will consider \*| constructing embankments included in the contract price paid for excavating \*| or furnishing the material including:

- (1) the furnishing of the necessary labor, materials, tools and \*| equipment;
- (2) the drying of embankment material as specified in Subsection \*|
  203.02(B) Embankment Construction; \*|
- (3) the construction of earth dikes, within or outside the highway right-of-way, for roadway protection;
- (4) the placing and compacting of acceptable material within the \*| roadway area where the Contractor removed unsuitable fill foundation \*| material; and
- (5) the placing and compacting of embankment material in holes, pits \*| and other depressions within the roadway areas.

The Engineer will not allow additional compensation.

When not specified in the proposal, the Engineer will consider roadway \*| excavation incidental to the various items of the contract. The Engineer \*| will not pay separately.

The Engineer will consider subgrade preparation a part of the work \*| contracted. The Engineer will not allow additional compensation. \*|

The Engineer will not pay for water used for compacting as required by \*| this section. The Engineer will consider watering a part of the various \*| items of work involved. The Engineer will not allow additional compensation. \*|

SECTION 204 - (Unassigned)